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THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

of the

VILLAGE OF FENELON FALLS

COUNTY OF VICTORIA

1971

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Report on a water pollution
survey of the village of Fenelon
Falls in the county of Victoria.

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ONTARIO WATER RESOURCES

COMMISSION

REPORT ON A

WATER POLLUTION SURVEY

OF THE

VILLAGE OF FENELON FALLS

IN THE

COUNTY OF VICTORIA

DIVISION OF SANITARY ENGINEERING

REPORT ON A
WATER POLLUTION SURVEY
OF THE
VILLAGE OF FENELON FALLS

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WATER POLLUTION SURVEY
OF THE
VILLAGE OF FENELON FALLS

INTRODUCTION:

This is a report on a water pollution survey of the Village of Fenelon Falls. Sampling was performed November 18, 1970, and on January 7, 1971. Surveys of this nature are made by the Ontario Water Resources Commission in order to locate existing and potential sources of surface water pollution. A similar survey was undertaken on July 22, 1965. At that time, the survey revealed that inadequately treated sanitary and industrial wastes were causing pollution of surface waters.

INTERVIEWS WITH OFFICIALS:

During this survey discussions were held with the following officials:

Mrs. J. Baker - Clerk Pro-Tem
Mr. T. Graham - Chairman of the Local Water Board
Mr. R. Palliser - Senior Health Inspector
Mr. D. I. Wright - Reeve

VILLAGE OF FENELON FALLS:

Fenelon Falls is located on the Otonabee River between Cameron and Sturgeon Lakes. This river, which is part of the Trent Waterway, flows in a south easterly direction into Sturgeon Lake.

According to the 1970 Municipal Directory the population is 1464. This represents an increase of 12% in 5 years.

WATER USES:

MUNICIPAL:

The OWRC/Municipal water treatment plant is the main source of the village water supply. It is located at the foot of Frances Street by the west limits of the village. Water is taken from Cameron

Lake via a 710 foot intake pipe. The water then undergoes coarse screening, pressure filtration and chlorination. The average and maximum day consumption by the village in 1970 was .17 mgd and .4 mgd respectively. Expansion and improvement of the treatment works are required to meet the present and future needs. A substantial portion of the Village is still being served by individual well supplies.

SURFACE DRAINAGE:

Two storm sewers convey surface drainage to the river from the west side of the village.

A storm sewer and a creek carry surface run-off to the canal and the river respectively from the east side of the village.

SANITARY WASTE DISPOSAL:

Presently, the Village of Fenelon Falls has private sewage disposal systems. Many of these systems are inadequate in the business section due to undersized lots. In particular, the coin-operated car wash and the Frances Street Laundromat are or were draining their wastes directly into the storm sewers. Due to the local geological conditions, it is evident that some household wastes are gaining access to the local sewers as well.

SAMPLING PROCEDURE:

Samples were collected of the three storm sewer outfalls, of the local creek, of the river and of other pertinent outfalls. The locations of these sample locations are appended to this report.

SAMPLE RESULTS:

The laboratory results, which are appended to this report reveal conditions similar to the 1965 water pollution survey. Sewage flows are gaining access to the local creek and storm sewers. This is evident particularly at sample points TCX 155.11 and TO 155.11 W.

Sample results obtained along the Otonabee River generally show a satisfactory water quality. However, continued discharge of sewage flows to the river could have a deleterious effect.

SUMMARY:

A water pollution survey of the Village of Fenelon Falls was performed from November 18, 1970 to January 7, 1971. Samples were collected from the local creek and municipal sewer outfalls and from the Otonabee River. This investigation revealed the presence of sewage flows in the local creek and municipal sewers.

RECOMMENDATIONS:

The contamination noted in the local creek and storm sewers should be eliminated.

Prepared by: *H. C. McNaughton*.....

H. C. McNaughton,

Technician,

Division of Sanitary Engineering.

HCMcN:bm

APPENDIX I

WATER QUALITY AND EFFLUENT OBJECTIVES:

The OWRC objectives for surface water is described in a booklet entitled "Guidelines and Criteria for Water Quality Management in Ontario". A copy of the booklet is enclosed in the pocket on the back cover of this report. This publication contains the guidelines and introduces water quality criteria for various uses including public, agricultural and industrial water supply, recreation, aesthetic enjoyment and the propagation of fish and wildlife. The guidelines should be followed to determine the acceptability of a watercourse for various uses.

A few pertinent maximum limits of contaminants in sewage treatment plant and industrial effluents are listed below. Adequate protection for surface waters except in certain specific instances influenced by local conditions, should be provided if the following concentrations are not exceeded:

5 - Day B.O.D. - not greater than 15 ppm
Suspended Solids - not greater than 15 ppm

GLOSSARY OF TERMS:

Coliform Organisms - The Membrane Filter Technique is used to obtain a direct count of coliform organisms. These organisms are the normal inhabitants of the intestines of man and other warm-blooded animals and soils. They are always present in large numbers in

untreated sewage and are, in general, relatively few in number in other stream pollutants. The fecal portion of the total coliforms originate only in the intestines of man and warm-blooded animals and indicate recent pollution.

Biochemical Oxygen Demand (B.O.D.) - The biochemical oxygen demand test indicates the amount of oxygen required for stabilization of the decomposable organic matter found in sewage, sewage effluent, polluted waters, or industrial wastes. This test is carried out at a temperature of 20° C over a period of 5 days and the results are reported in parts per million (ppm).

Solids - The analyses for solids include tests for total, suspended and dissolved solids. The results are reported in parts per million (ppm). The total solids is a measure of the solids in a solution and in suspension. Suspended solids indicate the measure of undissolved solids of organic or inorganic nature whereas the dissolved solids are a measure of those solids in solution. Land erosion, sewage and industrial wastes are significant sources of suspended solids.

WATER POLLUTION SURVEY - FENELON FALLS

SAMPLE POINT NUMBER	DESCRIPTION	DATE	5 - DAY B.O.D.	TOTAL	SOLIDS		COLIFORMS PER 100 ML.	
					SUSPENDED	DISSOLVED	TOTAL	FAECAL
TS 153.80	OTONABEE RIVER AT VILLAGE LIMIT - ELLICE STREET	JULY 22/65 NOV. 18/70	0.8 1.8	64 110	10 5	54 105	350 40	- 40
T0 154.99	OUTFALL 300' BELOW END OF CANAL	NOV. 18/70 JAN 7/71	0.8 4.6	380 360	5 10	375 350	1900 8300	900 4900
T0 155.10	OTONABEE RIVER - 150' BELOW LINDSAY STREET STORM SEWER OUTFALL	JULY 22/65 JAN 7/71	0.8 1.0	52 100	2 10	50 90	166 556	- 28
TCX 155.11	LOCAL CREEK AT EAST SIDE OF OTONABEE RIVER	JULY 22/65 NOV. 18/70 JAN 7/71	19.0 2.5 2.5	526 320 380	109 5 10	417 345 370	16,000,000 4500 4,900,000	- 3100 40,000
TCX 155.70	LOCAL CREEK AT JOHN STREET	JULY 22/65 NOV 18/70 JAN 7/71	2.2 1.6 1.4	428 420 390	81 5 10	347 415 380	70,000 32 140	- 4 4
T0 155.13	OTONABEE RIVER AT DAM	JULY 22/65 NOV. 18/70 JAN 7/71	1.0 1.4 1.2	84 90 90	1 5 10	83 85 80	22 4 <4	- 4 <4
T0 155.20	OTONABEE RIVER AT CNR BRIDGE - WEST SIDE	JULY 22/65 NOV. 18/70 JAN 7/71	1.1 2.5 1.6	70 80 100	2 5 10	68 75 90	12 <4 152	- <4 20

WATER POLLUTION SURVEY - FENELON FALLS

SAMPLE POINT NUMBER	DESCRIPTION	DATE	5-DAY B.O.D.	SOLIDS		COLIFORMS PER 100 ML.	
				TOTAL	SUSPENDED	DISSOLVED	TOTAL
TC 155.20	TRENT CANAL AT CNR BRIDGE - EAST SIDE	JULY 22/65	1.1	88	1	87	24
		NOV 18/70	1.4	100	5	95	16
		JAN 7/71	1.6	100	10	90	8
TC 155.30	MUNICIPAL WATER WORKS INTAKE AT FRANCES STREET	JULY 22/65	-	-	-	-	-
		NOV 18/70	1.6	70	5	65	4
		JAN 7/71	2.5	110	10	100	116
TO 155.11W	STORM SEWER AT OUTFALL FROM LINDSAY STREET	JULY 22/65	14.0	590	136	454	93,000
		NOV 18/70	1.4	460	10	450	3100
		JAN 7/71	8.0	410	20	390	156,000
TO 155.15W	STORM SEWER OUTFALL AT REAR OF HANDLEY PLANNING MILL	JULY 22/65	4.8	642	25	617	7000
		NOV 18/70	2.0	110	5	105	10
		JAN 7/71	8.0	500	90	410	100
TC 155.15W	STORM SEWER OUTFALL TO CANAL OPPOSITE MAY STREET	JULY 22/65	7.4	208	77	131	7,500,000
		NOV 18/70	2.0	110	5	105	1200
		JAN 7/71	NO FLOW	-	-	-	-